

Appendix D. Existing or Historic Inventory and Monitoring Programs in Wisconsin

Table 1. Bird surveys, inventories, or monitoring programs in Wisconsin that include Species of Greatest Conservation Need (sources include Wisconsin DNR 2004c – for more information on the project scope and geographic extent, see <http://www.dnr.state.wi.us/atri>).

Name	Organization(s)	Purpose	Begin Date	End Date
American Woodcock Population Status	U.S. Fish and Wildlife Service	Counts of singing males to index woodcock abundance, estimate population trends for states, provinces, management regions, and continent. Survey is the main source of information considered in setting woodcock hunting seasons.	1968	Ongoing
Annual Midwinter Bald Eagle Count	Eagle Nature Foundation Ltd.	Bald eagle count in the Midwest, conducted in late January annually.	1961	Ongoing
Apostle Islands National Lakeshore Breeding Bird Survey	National Park Service, WDNR	Annual breeding bird survey to estimating long-term population trends, abundance, and habitat use within the lakeshore areas.	1990	Ongoing
Bad River Rail Survey	Bad River Reservation, T. Doolittle	To determine rail distribution, abundance, and habitat use in northern Wisconsin.	2001	Ongoing
Baraboo Hills Bird Populations and Habitat	WDNR	To document the distribution, populations, and habitat use of breeding birds in the Baraboo Hills of south-central Wisconsin		Ongoing
Birds in Forest Landscapes	Cornell Laboratory of Ornithology	To determine the amount of habitat forest-dwelling bird species require for successful breeding and the affects of land use (human development, forestry, agricultural practices, and the surrounding landscape). Seven thrushes (veery, wood, Swainson's, gray-cheeked, varied, hermit, and Bicknell's), and two forest raptors (Coopers and sharp-shinned hawks) are being evaluated.	1997	Ongoing
Breeding Bird Atlas	WSO	To: 1) Provide a permanent record of breeding bird species, 2) Provide baseline data for monitoring future changes, 3) Assess habitat needs and document species diversity, 4) Document abundance and distribution of rare and endangered species, 5) Provide comparisons with historical studies, 6) Complement existing avian monitoring programs, 7) Assist in preservation of neotropical migratory birds, 8) Help land use planning, 9) Assist in environmental impact assessments.	1995	2005
Cedar Grove Ornithological Station	Cedar Grove Ornithological Station	Observations, trapping and banding of migrating raptors and vultures since 1936. Data are used to determine population trends and abundance patterns. Located in southern Sheboygan County along Lake Michigan.	1936	Ongoing
Cedarburg Bog Breeding Bird Survey	UW Milwaukee Field Station	Objectives were to measure population trends, abundance, and distribution in forest and bog breeding bird species.	1971	1997
Central Wisconsin Greater Prairie Chicken Census	WDNR	Annual census of Greater Prairie Chickens in central WI. The survey objective is to count individual males on territory to estimate population trends, abundance, and distribution in central WI. Counts are taken from Buena Vista (1950-present), Leola (1950-present), Paul Olsen (1962-present), Mead (1965-present), McMillan (1981-present), Dewey (1994-present) grassland management areas, and outlying areas including portions of Clark, Marathon and Taylor counties	1950	Ongoing
Cerulean Warbler Atlas Project	Cornell Laboratory of Ornithology	Provide information on population status, habitat, and area requirements of the cerulean warbler throughout its range.	1997	2000
Chequamegon Bay Hawk Watch	Chequamegon Bay Hawk Watch	Spring count of diurnal raptors and vultures conducted annually to identify abundance and trends of migrating raptors.	1999	Ongoing
Chequamegon National Forest Breeding Bird Survey -Bird Trends & Population	NRRI/UM Duluth U.S. Forest Service	To model regional bird population trends, identify where and when changes are occurring, identify possible conservation problems, and to incorporate the results in forest management.	1991	Ongoing

Table 1 *continued*

Name	Organization(s)	Purpose	Begin Date	End Date
Christmas Bird Count	National Audubon Society	To monitor the status and distribution of bird populations across the Western Hemisphere.	1900	Ongoing
Coniferous Wetland Forest Bird Inventory	WDNR	To produce information on the presence, local and regional distribution, and habitat associations of coniferous wetland birds, rare vascular plants, and invasive plant species; predict bird and plant species distributions; a manual on the identification, distribution, and composition of bird and plant communities in coniferous wetland forests.	2002	2005
Conservation of Endangered, Threatened and Nongame Birds Performance Report	WDNR, U.S. Fish and Wildlife Service, National Park Service, WSO, Erdman, Tom	Statewide nesting surveys and reports for red-necked grebe, great egret, red-shouldered hawk, osprey, bald eagle, greater prairie chicken, piping plover, common tern, Forster's tern, Caspian tern, barn owl, and loggerhead shrike.	1980s	Ongoing
eBird Program	Cornell Laboratory of Ornithology, National Audubon Soc.	To provide a central repository of bird observations so birdwatchers, scientists, and conservationists can access large scale bird distribution and movement information.	1966	Ongoing
Evaluation of Avian Surveys in Wisconsin	-All-Being conducted by: WBCI, WDNR, UW Green Bay	To identify all bird inventory and monitoring programs and projects with data relevant to Wisconsin, compile background information on those programs, and evaluate their individual and collective abilities to provide adequate information on bird species distribution; population size, trend, and status; productivity; and habitat use. Identify gaps in knowledge and monitoring ability and develop a coordinated bird monitoring strategy for Wisconsin.	2003	2006
Evaluation of Quadrat Surveys as a Method to Estimate Breeding Northern Goshawk Abundance in Wisconsin.	WDNR	To evaluate the scientific value (costs, manpower needs, logistical constraints, ability to answer management questions) of using quadrat surveys to estimate nesting goshawk abundance in Wisconsin.	1998	1999
Federal Trumpeter Swan Surveys	WDNR	USFWS coordinated effort to assess population trends and abundance patterns throughout North America. The survey is conducted every 5 years. Methods include aerial surveys and ground-based searches of known nesting areas. WDNR conducts much of the field work.	1968	Ongoing
Floodplain Forest Birds of the Upper Mississippi River Basin	U.S. Geological Survey	To describe bird assemblages and nesting ecology in upland vs. floodplain forests and determine affects of forest succession, flooding, cowbird parasitism, and fragmentation.	1991	2001
Glacial Habitat Restoration Area Ring-necked Pheasant, Duck, and Breeding Bird Surveys	WDNR	To relate ring-necked pheasant, dabbling duck, and breeding bird abundance and population trends to landscape-scale habitat restoration of grasslands and wetlands.	1991	Ongoing
Golden-winged Warbler Atlas Project	Cornell Laboratory of Ornithology	To identifying important GWWA habitats in each state and physiographic area; determine the status of GWWA populations; map the frequency of hybridization between the golden-winged and blue-winged warblers.	1999	Ongoing
Great Backyard Bird Count	Cornell Laboratory of Ornithology	To detect population trends, abundance, and distribution patterns of wintering birds in North America.	1988	Ongoing
Lake Superior Colonial Waterbird Survey & Wisconsin Waterbird Registry (2005-06)	WDNR, U.S. Fish and Wildlife Service, National Park Service, WSO	To determine long term population and productivity trends and provide management guidance. Conducted every 5 years along south shore of Lake Superior including the Apostle Islands National Lakeshore. Waterbird Registry will be a complete listing of all known breeding and congregation sites.	1974	Ongoing
Little Suamico Ornithological Station	Little Suamico Ornithological Station, Erdman, Tom	To monitoring trends and abundance of raptors, owls, vultures, and songbirds during fall migrations.	1971	Ongoing

Table 1 *continued*

Name	Organization(s)	Purpose	Begin Date	End Date
Maps, Models, and Tools for Bird Conservation Planning	U.S. Geological Survey, Upper Midwest Environmental Sciences Center, UW Madison	To identify the best locations for conservation action by predicting where bird species of conservation concern are found. Developed statistical models for predicting and mapping habitat associations across the Prairie-Hardwood Transition (BCR 23). Used BBS data linked with digital maps of land cover, elevation, soil, moisture, and climate. Produced models, maps, and decision support tools.		Ongoing
Marsh Monitoring Program	Bird Studies Canada	To monitor marsh-dwelling bird species, amphibians, and their habitats in order to estimate long-term population trends and habitat use.	1995	Ongoing
Midwinter Bald Eagle Surveys	USGS Snake River Field Station, National Wildlife Federation	NWF 1979-92; USGS 1993-present. Initially, to index wintering bald eagle population size, determine distribution, and identify important winter habitat. Standardized routes, observers, methods, dates, and times used after 1984 to monitor population trend.	1979	Ongoing
Midwinter Waterfowl Survey	U.S. Fish and Wildlife Service, WDNR	As part of the USFWS continental effort, WDNR administers a winter waterfowl survey to monitor wintering population size and distribution.	1950's	Ongoing
Migratory Bird Harvest Information Program (HIP)	U.S. Fish and Wildlife Service, WDNR	To developing more reliable estimates of migratory bird harvest throughout the country. To provide information for setting hunting seasons, bag limits, and population management. In WI, mandatory participation if harvesting ducks, coots, geese, doves, woodcock, rails, and snipe.		Ongoing
Monitoring Avian Productivity and Survivorship (MAPS)	Institute for Bird Populations and Cooperators	To assess the underlying causes of bird population trends detected by other surveys; to obtain demographic information (young/adult ratios, adult survivorship) for small land birds through constant effort mist netting. WI has 5 MAPS stations located in Oconto, Outagamie, Ozaukee, Milwaukee, and Waukesha Counties.	1989+	Ongoing
Nest site habitats and breeding biology of Hooded Warblers in southeastern Wisconsin	Bielefeldt, John, Rosenfield, Robert, USWP	To describe chronology nest site habitats, brood parasitism, conservation and management concerns, and breeding biology of hooded warbler nests in southeastern Wisconsin.	1993	2000?
Nicolet National Forest Bird Survey	UW Green Bay, U.S. Forest Service, WSO	To provide quantitative information on breeding bird populations and habitats in northeastern Wisconsin.	1987	Ongoing
North American Bird Banding Program	U.S. Geological Survey	Bird banding provides information on dispersal, migration, demographic structure, life-span, survival rate, reproductive success, and population growth.	1923	Ongoing
North American Breeding Bird Survey	U.S. Geological Survey	To provide information on summer bird distributions, abundance, and population trends throughout North America.	1966	Ongoing
Northern Bobwhite Population Survey	WDNR	Roadside surveys to monitor Northern Bobwhite population trends in 15 southwestern Wisconsin counties. From 1949 to 1990 survey conducted annually, biannually thereafter.	1949	Ongoing
Northern Goshawk Breeding Population Assessment	UW Stevens Point, Rosenfield, Robert	To determine NOGO breeding population size/density and assess survey methods. The findings from this study were incorporated in the assessment below.	1996	1997
Northern Goshawk Monitoring	Doolittle, Tom	To monitor NOGO nest site reoccupancy rates, productivity habitat use, and response to land use in northern Wisconsin. Historic data and sites incorporated into WDNR/USFS study below.		2003
Northern Goshawk Monitoring	WDNR, U.S. Forest Service	To assess NOGO breeding population monitoring methods (aerial surveys & bioregional monitoring), monitor site reoccupancy rates, habitat use, productivity, and response to trial timber management guidelines in northern Wisconsin.	2001	Ongoing
Northern Goshawk Study	Erdman, Tom, U.S. Forest Service	To monitor long-term trends in NOGO site occupancy, nest success, productivity, and habitat use in northeastern Wisconsin.		Ongoing

Table 1 *continued*

Name	Organization(s)	Purpose	Begin Date	End Date
Osprey and Bald Eagle Surveys	WDNR	To monitor osprey and bald eagle breeding populations with aerial surveys in April to locate active nests and June to count young. Osprey flights are conducted in mid May to locate active nests and in mid July to count young.	1973	Ongoing
Red-shouldered Hawk Cooperative Study	WDNR, Menominee Tribal Enterprises	To identify RSHA nesting and foraging habitat preferences; document hawk nesting density, productivity; collect long-term data on the effects of selection harvest logging; recommend forest management guidelines to benefit RSHA in similar habitats.	2002	Ongoing
Red-shouldered Hawk Study	Jacobs, Eugene and John	To monitor long-term trends or patterns in RSHA site occupancy, nest success, productivity, habitat use, behavior, food base, and prey delivery rates in central and eastern Wisconsin.	1971	Ongoing
Sharp-tailed Grouse Harvest Survey	WDNR	To monitor rates and trends in sharp-tailed grouse permit applications and allotment, hunter effort, harvest rates, dates, and locations.	1992	Ongoing
Sharp-tailed Grouse Surveys	WDNR, U.S. Forest Service, GLIFWC, WI Sharp-tailed Grouse Society	To monitor sharp-tailed grouse abundance and distribution by counting males on leks or by flushing counts. Coverage includes nine properties managed for sharp-tailed grouse and private lands in Deer Management Units 2 & 9.	1991	Ongoing
Shorebird Monitoring Program (2004)	WDNR, UW Green Bay, Madison Audubon Society, WSO, U.S. Geological Survey	To monitor 12 shorebird breeding sites for impacts of management activities; includes online data entry and archival capacity. Uses Western Shorebird Survey protocols and reports data to the International Shorebird Survey.	2004	Ongoing
Small Game Harvest	WDNR	To estimate and track hunting effort, location, and harvest of small game species including northern bobwhite quail, American crow, gray partridge, ruffed grouse, ring-necked pheasant, and woodcock.	1983	Ongoing
St. Croix National Scenic Riverway Bald Eagle Productivity Monitoring	National Park Service	To monitor bald eagle breeding attempts and productivity.	1986	Ongoing
St. Croix National Scenic Riverway Bird Checklist	National Park Service	To document bird species use, relative abundance, and breeding status within the Riverway. 237 species recorded; 151 are known to breed on the property. Reports accepted by Resource Specialist for new, occasional, rare, and accidental species.		Ongoing
St. Croix National Scenic Riverway Midwinter Bald Eagle Count	National Park Service, Eagle Nature Foundation Ltd.	To monitor wintering bald eagle population size.	1999	Ongoing
St. Croix National Scenic Riverway Midwinter Bald Eagle Count	National Park Service, U.S. Geological Survey	To monitor wintering bald eagle population size (see USGS Midwinter Bald Eagle Surveys).	2003	Ongoing
State Natural Areas Breeding Bird Surveys	WDNR, UW Madison, WSO	To document bird distribution patterns, population trends, and abundance. Observers use a walk-and-stop survey or point counts. Habitat data collected with point count surveys.	1971	Ongoing
State Trumpeter Swan Surveys	WDNR	Annual spring and summer statewide survey to monitor nesting attempts, success, location, and productivity.	1987	Ongoing
Summer Wildlife Inquiry	WDNR	To monitor long-term population trends of wild turkey, northern bobwhite, ruffed grouse, gray partridge, and ring-necked pheasant.	1988	Ongoing
Tamarack Bird Study	WDNR	To document the composition of breeding bird communities in tamarack, black spruce, and white cedar stands in Wisconsin; identify preservation priorities; determine the influence of tract size, isolation, geographic location, and vegetation structure and composition on the relative abundance of birds.	1983	1993

Table 1 *continued*

Name	Organization(s)	Purpose	Begin Date	End Date
Waterfowl Breeding Population Surveys	WDNR, GLIFWC, U.S. Fish and Wildlife Service	Population estimates are used for monitoring spring breeding waterfowl population trends.	1973	Ongoing
Wildlife Health Disease Surveillance Database	WDNR	Disease surveillance in free range and captive wildlife species.	1985	Ongoing
Wildlife Health: West Nile Virus Necropsy Surveillance Program	WDNR, <i>et al.</i>	To document and collect dead birds, necropsy and test for prevalence of West Nile Virus, and to assess the potential impacts of the disease on avian populations.	2002	Ongoing
Wisconsin Bird Checklist Project	WDNR, WSO, UW Madison	Volunteer bird monitoring project that provides information on annual, seasonal, and geographic variation in abundance for 296 bird species in WI.	1982	Ongoing
Wisconsin Falcon Watch	Milwaukee Public Museum	To monitor peregrine falcon reintroductions, nesting, nest success, and adult return rates in Wisconsin.	1987	Ongoing
Wisconsin Grassland Bird Study	WDNR, USGS	To determine grassland bird distribution, abundance, community composition, habitat preferences, habitat requirements, population trends, and response to land use changes. Extensive field work statewide, with particular focus on southern and central Wisconsin.	1985	1997
Woodland Dunes Bird Monitoring and Banding	Private Research	Monitoring and banding station on 1,200 acres. Monitor summer birds (June), conduct banding of 60 songbird species during spring/fall migration, saw-whet owl banding in the fall.	1976	Ongoing

Table 2. Fish surveys, inventories, or monitoring programs in Wisconsin that include Species of Greatest Conservation Need (adapted from Wisconsin DNR 2004c and Great Lakes Commission 2004).

Item name	Organization	Purpose	Begin date	End date
Endangered and Threatened Vertebrates	WDNR/Endangered Resources	This guide is intended to help users with planning and decision making where endangered and threatened species concerns do or may exist.	1/1/1972	7/31/1997
Lake Winnebago Fish - Young of the Year	WDNR/Integrated Science Services	To assemble fine-mesh trawling data from Lake Winnebago and use it to describe factors affecting first year growth, including lake sturgeon .	3/20/1962	11/30/1984
Natural Heritage Inventory Program	WDNR/Bureau of Endangered Resources	See Section 5.4 for a description of the Natural Heritage Inventory Program.		
Sensitive Nongame Fish – Seine Surveys	WDNR/Integrated Science Services	Comparison of 1970s and 2004 surveys of same sites in lakes to determine changes in populations of forage fish.	5/27/2004	

Table 3. Herptile surveys, inventories, or monitoring programs in Wisconsin that include Species of Greatest Conservation Need (adapted from Wisconsin DNR 2004c – for more information on the project scope and geographic extent, see <http://www.dnr.state.wi.us/atri>).

Item Name	Reporting Cycle	Organization(s)	Purpose	Begin Date	End Date
Amphibian Malformations	Continuous	WDNR	To document reports of malformations in amphibians. Includes all amphibian SGCN.	1960	Ongoing
Amphibian Research and Monitoring Initiative	Continuous	USGS	In response to indications of worldwide declines in amphibian populations, the President and Congress directed Interior Department agencies to initiate a national program of amphibian monitoring, research, and conservation. The four major goals of the ARMI Program are to: 1) Provide the first nationwide assessment of the current distribution and status of amphibian populations, 2) Understand the scope and severity of amphibian declines throughout the U.S., 3) Determine the causes of declines, and 4) Provide essential scientific information to support effective management actions in order to arrest or reverse these declines. Includes all amphibian SGCN.	2000	Ongoing
ARMI National Atlas for Amphibian Distributions	Continuous	USGS	The Amphibian Research and Monitoring Initiative (ARMI) National Atlas for amphibian distributions is a compilation of current and historic records of amphibian occurrences. The records are from published, peer-reviewed scientific literature, museum records, state and regional herpetological atlases, and other confirmed and validated observations. The Atlas was created to identify where amphibians occur in the United States, and to identify potential gaps in our knowledge of amphibian distributions. Includes all amphibian SGCN.	1999	Ongoing
Cricket Frog Surveys in Southwestern Wisconsin	2004 & 2005	WDNR	The purpose of this survey effort is to determine the current status of the state endangered Blanchard's cricket frog in Wisconsin. Calling surveys are conducted at known sites as well as at sites with suitable habitat that have not previously been systematically surveyed. Sites are also characterized by collecting information on a variety of habitat variables, including water chemistry, vegetative cover, bank type and surrounding land use. This study will provide management guidelines and recommendations for additional research.	2004	2005
Frogwatch USA	Annual	National Wildlife Federation, USGS	Frogwatch USA is a long-term frog and toad monitoring program managed by the National Wildlife Federation in partnership with the United States Geological Survey to: 1) collect information about frog and toad populations in the U.S., 2) promote an appreciation for the diversity of frog and toad species, 3) foster an understanding of the importance of protecting wetland habitats, and 4) provide an opportunity to learn about and establish a closer relationship with the natural environment. Includes all frog SGCN.	1998	Ongoing
Herpetological Atlas	Continuous	Milwaukee Public Museum	These data help to map species distributions, document rare species occurrences, analyze population trends, examine habitat requirements, and plan conservation priorities. Includes all herptile SGCN.	1986	Ongoing
Natural Heritage Inventory Program		WDNR	See Section 5.4 for a description of the Natural Heritage Inventory Program. Includes most herptile SGCN.	1972	Ongoing

Table 3 *continued*

Item Name	Reporting Cycle	Organization(s)	Purpose	Begin Date	End Date
North American Amphibian Monitoring Program (NAAMP)		USGS	The NAAMP is a long-term monitoring program designed to track the status and trends of frog and toad populations in the Canadian Provinces and in the eastern United States. NAAMP is a collaborative effort among many partner organizations working regionally and the USGS. The USGS Patuxent Wildlife Research Center provides central coordination and administrative support. NAAMP regional partners include State and Provincial government agencies, academic institutions, and non-profit organizations. Regional partners provide local coordination and training. Includes all frog SGCN.		Ongoing
North American Reporting Center for Amphibian Malformations (NARCAM).	Continuous	National Biological Information Infrastructure (NBII)	Reports provide an important baseline of data on the health and fitness of existing amphibian populations; patterns of reported malformation occurrences can help direct further research and study of these phenomena, in order to determine causes. While NARCAM always seeks reports of malformed amphibians, we are also interested in observations of normal amphibian populations. Obtaining both kinds of reports provides a more accurate picture of current conditions in a particular local. Includes all amphibian SGCN.	1997	Ongoing
Wisconsin Frog and Toad Survey	Annual	WDNR	This survey's primary focus is to provide ongoing population monitoring of frog and toad species. It also provides information on their distribution and relative abundance. Includes all frog SGCN.	1981	Ongoing
Wisconsin Naturemapping	Continuous	Beaver Creek Reserve, WDNR	The purpose of Naturemapping is to map wildlife distributions in Wisconsin through public training, observations and online data entry and viewing. Includes all herptile SGCN.	2003	Ongoing

Table 4. Mammal surveys, inventories, or monitoring programs in Wisconsin that include Species of Greatest Conservation Need (sources include Wisconsin DNR 2004c – for more information on the project scope and geographic extent, see <http://www.dnr.state.wi.us/atri>).

Name	Reporting Cycle	Organization(s)	Purpose	Begin Date	End Date
American Marten Population Inventory	Annual	DNR	To accurately estimate American marten population size within the Argonne reintroduction area.	2004	2006
American Marten Track Survey	August, annually	DNR	To monitor distribution and trends in American marten track counts using roadside surveys in the Marten Restoration Areas of the Chequamegon-Nicolet National Forest. Data also are recorded for gray wolf , bobcat, coyote, fox, fisher, river otter, and North American porcupine.	1987 (Nicolet) 1991 (Cheq.)	Ongoing
Atkinson Mine Arthur & Co. Mine	Biennial	Public Volunteers	Estimate hibernating bat population size. Data are recorded for little brown bat, eastern pipistrelle, big brown bat, northern long-eared bat .	1994	Ongoing
Bobcat Hunter/Trapper Survey	August, annually	DNR	To collect data on hunter effort and harvest rates for bobcat by county and management unit. Data also collected on impression of relative population size for fox, coyote, fisher, and gray wolf . Observations of Canada lynx, gray wolf , American marten , and cougar solicited.	1980	Ongoing
Bowhunter Wildlife Survey	August, annually	DNR, WTA, WBA	Monitor wildlife population trends seen by bowhunters, including black bear, bobcat, house cat, gray wolf , coyote, red fox, gray fox, fisher, river otter, American badger, striped skunk, American marten , North American porcupine, common raccoon, and white-tailed deer.	1997	Ongoing
Gray Wolf Population	August, annually	DNR, Public Volunteers	To determine the distribution and number of gray wolves and packs in WI through radio-tracking, howling surveys, winter track counts, and Rare Mammal Observation Cards.	1980	Ongoing
Incidental Wolf Observations	Annual	DNR	Record of gray wolf observations from DNR and the public.	2004	Ongoing
Neda Mine State Natural Area	Annual	DNR UWM Field Station	Long-term monitoring on hibernating bat population size. Electronic counters to monitor directional movement of bats. Data include environmental variables in and outside mine.	2001	Ongoing
Rare Mammal Observations	April, annually	DNR	Document observations of rare mammals including – gray wolf , cougar, moose , American marten , Canada lynx.		Ongoing
Wildlife Health Contaminant Surveillance & Database	Continuous	DNR	To diagnose, document, and monitor cases of contaminant exposure in free ranging and captive wildlife. Monitor prevalence and distribution of contaminant exposure. Coverage includes some SGCN.		Ongoing
Wildlife Health Disease Surveillance & Database	Continuous	DNR	To diagnose, document, and monitor diseases and other causes of mortality in free ranging and captive wildlife. Monitor prevalence and distribution. Coverage includes some SGCN; especially American marten and gray wolf.		Ongoing
Winter Track Count	August, annually	DNR, Public Volunteers	To monitor distribution and trends in mammal track counts using roadside surveys in northern and central Wisconsin. Species include - bobcat, coyote, fox, fisher, river otter, American marten , and snowshoe hare.	1977	Ongoing
Wisconsin NatureMapping	Continuous	BCR, DNR	To map wildlife distributions in Wisconsin through public training, observations, and online data entry and viewing. Includes all SGCN. BCR=Beaver Creek Reserve.	2003	Ongoing

Table 4 *continued*

Name	Reporting Cycle	Organization(s)	Purpose	Begin Date	End Date
Wisconsin Statewide Small Mammal Inventory	Annually, Spring	DNR, UW, <i>et al.</i>	Document the current distribution, relative abundance, and habitat associations of 40 small mammal species. Emphasis is on shrews, moles, lemming, voles, mice, and ground squirrels. SGCN include water shrew, Franklin's ground squirrel, northern flying squirrel, prairie vole, woodland vole, woodland jumping mouse, and white-tailed jackrabbit.	2001	Ongoing

Table 5. Terrestrial invertebrate surveys, inventories, or monitoring programs in Wisconsin that include Species of Greatest Conservation Need (adapted from Wisconsin DNR 2004c and Great Lakes Commission 2004).

Item name	Organization	Purpose	Begin date	End date
Annelid Collection of the Mil. Public Museum	Milwaukee Public Museum / Invertebrate Zoology	This database is designed to record accessions for the MPM collection.	6/22/1925	5/12/1978
Arachnid Collection of the Mil. Public Museum	Milwaukee Public Museum/Invertebrate Zoology	This database is designed to record accessions for the MPM collection.	7/20/1949	8/1/1987
Endangered and Threatened Invertebrates	WDNR / Endangered Resources	The guide is intended to help with planning and decision making where protection of endangered and threatened species is a concern.	1/1/1990	6/1/1999
Hemiptera Specimen Data Set	WDNR / Integrated Science Services	The purpose of this inventory is to document the insect diversity at various prairie sites with the intent of looking at the effect of management practices on sites of diversity.	1/1/1995	
Insect Research Collection	UW-Madison / Department of Entomology	To represent the insect fauna of Wisconsin and the Great Lakes region.	1/1/1950	
Insects of the Prairie Invertebrate Inventory	WDNR / Integrated Science Services	Specimen information for collected coleopterans , dipterans , hemipterans , hymenopterans , orthopterans , (and spiders) under the WDNR study for the Prairie Invertebrate Inventory. Samples were collected from approximately 180 different sites in Wisconsin.		
Isopoda Collection of the Mil. Public Museum	Milwaukee Public Museum / Invertebrate Zoology	This database is designed to record accessions for the MPM collection.	4/15/1929	8/13/1993
Karner Blue Butterfly HCP Effectiveness Monitoring	WDNR / Endangered Resources & USFWS	HCP partners surveyed effectiveness monitoring sites randomly selected from the Karner Blue High Potential Range. Surveys determine the presence/absence of wild lupine (essential KB habitat), the presence/absence of Karner blue butterflies at sites containing significant lupine, and the relative abundance of Karner blues at sites containing significant lupine. Twenty-five partners also conduct self-monitoring surveys (e.g., pre-management and/or post-management surveys) for lupine and/or Karner blues.	3/25/2003	
Lake Superior Basin Coastal Wetland Evaluation	WDNR / Endangered Resources	Included a systematic butterfly and skipper survey of acid peatlands in the Lake Superior Basin of Wisconsin. This work focused on documenting: (1) the butterfly and skipper fauna of each of the three major acid peatland types (muskeg, pothole and coastal) located in the study region; (2) the regional patterns in faunal diversity; (3) the rarity and habitat requirements for members of this fauna; and (4) the most important sites in the region for conservation of this fauna.		
Macroinvertebrate Data (UW-Stevens Point)	UW-Stevens Point / Department of Entomology	Most of the samples contained in this database are the result of various Wisconsin DNR monitoring programs and research projects involving macroinvertebrates. Additional data were generated as part of research projects from the University of Wisconsin/Stevens Point, and other state, federal and private agencies.	1/1/1978	
Myriapod Collection of the Mil. Public Museum	Milwaukee Public Museum / Invertebrate Zoology	This database is designed to record accessions for the MPM collection.		8/26/1996
Natural Heritage Inventory Program	WDNR / Endangered Resources	See Section 5.4 for a description of the Natural Heritage Inventory Program. The Wisconsin NHI database contains nearly 13,000 records for plants and natural communities on the NHI Working List.		

Table 5 *continued*

Item name	Organization	Purpose	Begin date	End date
North American Butterfly Count	North American Butterfly Association	To increase public enjoyment and conservation of butterflies.	7/1/1975	
Pseudoscorpion Collection	Milwaukee Public Museum / Invertebrate Zoology	This database is designed to record accessions for the MPM collection.	7/28/1910	12/23/1986
Radiate Collection of the Mil. Public Museum	Milwaukee Public Museum / Invertebrate Zoology	This database is designed to record accessions for the MPM collection.		9/1/1974
Terrestrial Isopods at the Mil. Public Museum	Milwaukee Public Museum / Invertebrate Zoology	This database is designed to record accessions for the MPM collection.	6/9/1976	10/8/1993

Table 6. Aquatic invertebrate surveys, inventories, or monitoring programs in Wisconsin that include Species of Greatest Conservation Need (adapted from Wisconsin DNR 2004c and Great Lakes Commission 2004).

Item name	Organization	Purpose	Begin date	End date
Amphipoda Collection of the Mil. Public Museum	Milwaukee Public Museum / Invertebrate Zoology	This database is designed to record accessions for the MPM collection.		8/10/1993
Anostraca Collection of the Mil. Public Museum	Milwaukee Public Museum / Invertebrate Zoology	This database is designed to record accessions for the MPM collection.		5/30/1997
Assessments of Benthic Macroinvertebrate Communities in the Great Lakes	NOAA - Great Lakes Environmental Research Laboratory	Spatial and temporal distributions in benthic macroinvertebrate populations, including dreissenid mussels, in various regions of the Great Lakes are monitored through this project. These data will be used to determine trends in abundances and, in some cases, used to establish a baseline for future comparisons.		
Benthic Macro-invertebrates of the Kinnickinnic River	UW-River Falls / Biology	The data set is being assembled to serve as: 1) a resource for researchers, educators, and conservation-interested members of the public and 2) an archive of macroinvertebrate biodiversity in the Kinnickinnic River for the years 1999 and 2001-2002.	2/1/1999	
Biological Monitoring Program	Oneida Tribe of Indians of Wisconsin	To collect baseline aquatic invert data, conduct pilot studies, determine reference sites for the development of biocriteria, conduct restoration projects to improve instream and riparian habitat, and continue collecting water quality data.		
Brule Research	WDNR / Integrated Science Services	The purpose of the study was to better understand the influences of in-stream woody debris on fish communities in coldwater streams so that predictions could be made about how management efforts to restore historical levels of woody debris to these streams would impact the fish community.	7/1/1995	6/30/2004
Chironomidae (diptera) Populations in L. Winnebago	UW-Oshkosh / Department of Biology / Microbiology	Assess population trends; research. The Chironomidae population is an important food source for many fish in Lake Winnebago, especially lake sturgeon.	1/1/1995	12/31/1996
Commercial Mussel Harvest Statistics	WDNR / Fisheries Management & Habitat	To use as trend data for comparisons between years, other mussel resources, and mussel producing states.	1/1/1988	
Crayfish Collection of the Mil. Public Museum	Milwaukee Public Museum / Invertebrate Zoology	This database is designed to record accessions for the MPM collection.	7/1/1905	9/18/1993
Crustacean and Zooplankton Data	UW-Madison / Department of Zoology	These data were gleaned from the literature, to produce a species-area curve for zooplankton.		12/31/1991
Crustacean Collection of the Mil. Public Museum	Milwaukee Public Museum / Invertebrate Zoology	This database is designed to record accessions for the MPM collection.	4/4/1933	4/1/1980
Crustacean Zooplankton - WI Small Lakes, '96 & '98	UW-Madison / Department of Zoology	Inventory and Monitoring, Research	1/1/1996	12/31/1998
Cryptosporidium Data	WDNR / Watershed Management	Study conducted to assess possible sources of a human disease outbreak in Milwaukee, and possible widespread threat in Wisconsin waters.	1/1/1993	12/31/1995
Endangered and Threatened Invertebrates	WDNR / Endangered Resources	The guide is intended to help with planning and decision making where protection of endangered and threatened species is a concern.	1/1/1900	6/1/1999

Table 6 *continued*

Item name	Organization	Purpose	Begin date	End date
Fisher Lake Restoration	UW Extension - Florence County	Annual semester long program for middle and high school students. Workshops and seminars on shoreline ecology, watersheds, native plants and shore landscaping, water quality and testing. Fisher Lake is in the Upper Green Bay Watershed. In addition to shoreline restoration, students monitor water quality by gathering macroinvertebrates, and testing for bacteria, phosphorus, dissolved oxygen, temperature, clarity and pH. Students also monitor for zebra mussels.		
Harold Mathiak Mussel Survey	Milwaukee Public Museum / Invertebrate Zoology	This dataset contains information for all Milwaukee Public Museum specimens collected by Mathiak as well as data for all of his 1973-1977 River Survey sites.	6/6/1973	7/3/1979
Invertebrate Data of the W. Lake MI Drainages	U.S. Geological Survey	To incorporate ecological data in an overall assessment of surface-water quality	1/1/1993	12/31/1995
Lake Superior Basin Coastal Wetland Evaluation	WDNR / Endangered Resources	Included inventories of macroinvertebrates on 129 selected Lake Superior Basin streams and on virtually all (56) waterbodies on the Brule River State Forest. Rare taxa, exemplary or unique associations, and sites needing special management were the primary focus. Mussel surveys were conducted on four Lake Superior Basin stream mouths and in Chequamegon Bay.		
Long Term Trends in Benthic Populations in Lake Michigan	NOAA - Great Lakes Environmental Research Lab	This is a long term monitoring project that documents changes in the benthic macroinvertebrate community in the southern basin of Lake Michigan. The project was designed so that samples are collected at 40 sites for two consecutive years every 5 years.		
Macrobenthos Associations in Diving Duck Use	WDNR / Integrated Science Services	Determine availability of macrobenthos food items for migrating diving ducks.	3/1/1989	10/31/1991
Macroinvertebrate Data (UW-Stevens Point)	UW-Stevens Point / Department of Entomology	Most of the samples contained in this database are the result of various Wisconsin DNR monitoring programs and research projects involving macroinvertebrates. Additional data were generated as part of research projects from the University of Wisconsin/Stevens Point, and other state, federal and private agencies.	1/1/1978	
Mollusk Collection of the Mil. Public Museum	Milwaukee Public Museum / Invertebrate Zoology	The Milwaukee Public Museums initial collections were presented to the City of Milwaukee by the Natural History Society of Wisconsin in 1883 and included Wisconsin unionids. MPM has been a repository for mussels collected in the state ever since, receiving voucher specimens from notable Wisconsin collectors.		8/31/2001
Mukwonago River Mussel Survey	WDNR / Endangered Resources	To describe standing stocks of important commercial mussel beds. Information is used to evaluate and model harvest regulations.		Ongoing
Mussel Database	WDNR / Fisheries Management & Habitat	To monitor mussel population trends in Wisconsin.		
N. Temperate Lakes Long Term Eco. Research	UW-Madison / Center for Limnology	Our vision is to gain a predictive understanding of the ecology of lakes at longer and broader scales than has been traditional in limnology. Our major goals are: a) to perceive long-term changes in these lake ecosystems; b) to understand within-lake interactions among physical, chemical, and biological processes that along with external drivers result in long-term dynamics; c) to understand lake ecology at the lake district scale; d) to integrate atmospheric, hydrologic, and biotic processes regionally; e) to understand the reciprocal interactions between lakes and society.	1/1/1981	
Natural Heritage Inventory Program	WDNR / Endangered Resources	See Section 5.4 for a description of the Natural Heritage Inventory Program.		

Table 6 *continued*

Item name	Organization	Purpose	Begin date	End date
Odonata Survey	WDNR / Endangered Resources	To document populations of dragonflies and damselflies by identifying adults, larvae, and exuviae.		
Oneida Nation Exotic Species Monitoring Program	Oneida Tribe of Indians of Wisconsin	The goal of sampling for the first year was to determine the numbers and species of exotic species present in Reservation waters and to accurately map where those specimens were collected with GPS.		
Open Water Surveillance Program	U.S. Environmental Protection Agency	To assess the state of plankton communities in the open waters of the Great Lakes, and the benthos communities in offshore and nearshore locations.		
Rock River Citizens Monitoring	UW-Extension	The purpose of the RRC is to make the Rock River more useful, beautiful, and enjoyable by increasing cooperation among communities, organizations and individuals to preserve and promote our shared cultural, economic and environmental resources.	6/1/1998	
Statewide Fish/Sediment Contaminants	WDNR / Fisheries Management & Habitat	These data were collected to investigate contaminant sources and contaminated sites; analyze pollution trends, track their extents, and assess damage; monitor pre/post remediation efforts and measure their success; issue fish consumption advisories; and conduct baseline surveys, establish reference sites, and predict wildlife impacts.	1/1/1970	
Upper Mississippi River Mussel Inventory	WDNR / Fisheries Management & Habitat	To define the extent of mussel beds, and describe the species composition and relative abundance of these mussel communities.	1/1/1979	12/31/1981
US Mussel Watch Project	NOAA / National Centers for Coastal Ocean Science	Chemical contaminants in bivalve mollusks have been monitored since 1992 in the Great Lakes with the sampling of five sites in Saginaw Bay, Lake St. Clair, and Western Lake Erie. The monitoring effort expanded to sampling from Green Bay in the west to Cape St. Vincent in the east. Sampling occurs biennially with Lakes Michigan and Huron, and Green Bay sampled in alternating years with sites in Lakes St. Clair, Erie, and Ontario.	1/1/1992	
Washboard, Threeridge & Mapleleaf Com. Mussels	WDNR / Fisheries Management & Habitat	These data were collected to describe standing stocks of historically important commercial mussel beds, including mapleleaf mussels. The information was used to evaluate and model harvest regulations.	10/1/1995	7/31/1998
Water Resources Data Directory System	WDNR / Watershed Management	This data set was developed to allow thorough and quick access to water resources data stored in numerous file cabinets managed by several staff.	1/1/1960	12/31/1997
Zebra Mussel Database, Infestation Locations, and Monitoring Locations	WDNR / Watershed Management	Primarily inventory and monitoring purposes. A more complete sampling of these lakes and streams for the presence of zebra mussels will contribute to a public more informed about where zebra mussel infestations exist already - facilitating better control of the spread of zebra mussels. In addition, ecosystem monitoring contributes to a more thorough assessment of the zebra mussel's ecological impact on Wisconsin water.	1/1/1990	Ongoing

Table 7. Aquatic and wetland surveys, inventories, or monitoring programs in Wisconsin (adapted from Wisconsin DNR 2004c and Great Lakes Commission 2004).

Item name	Organization	Purpose	Begin date	End date
1992-93 NER Arsenic Sampling	WDNR / Drinking Water – Groundwater	This data set was collected to evaluate the extent of naturally occurring arsenic in private wells in Northeastern Wisconsin. [Aquatic]	1/1/1987	12/31/1995
2000-02 Town-based Arsenic Sampling	WDNR / Drinking Water – Groundwater	This data set was collected to further evaluate the extent of naturally occurring arsenic in private wells in Northeastern Wisconsin (Outagamie and Winnebago Counties). [Aquatic]	1/1/2000	
2000-04 Town-based Arsenic Sampling	Drinking Water – Groundwater	The data consist of well water sampling results for arsenic, done by homeowners in 18 townships located in Outagamie and Winnebago counties. The sampling program is ongoing and data will be added as more towns participate and other counties join in the sampling effort. This data set was collected to further evaluate the extent of naturally occurring arsenic in private wells in Northeastern Wisconsin. [Aquatic]		
303(d) Degraded Lakes and Streams	WDNR / Watershed Management	The list of 303(d) Degraded Lakes and Streams is intended to highlight waters in the state which deserve attention from the perspective of water quality improvement and protection. By having a comprehensive list, it will better enable the Department, working with the public, through the Geographic Management Unit partnership teams, to prioritize where program emphases should be placed. The list is based upon an objective evaluation of the best scientific water quality information available. The list of impaired waters is not based on other nonscientific factors such as funding opportunities. [Aquatic]	1/1/1998	
Aquatic Pesticide Treatment Data	WDNR / Watershed Management	The Department monitors aquatic plant management techniques according to Wisconsin Administrative Code NR 107 and 105. We do this monitoring to ensure that the registered aquatic herbicides are being applied in a manner consistent with the Environmental Protection Agency (EPA) and Department of Agriculture, Trade and Consumer Protection (DATCP) label directions and standards. [Aquatic]	1/1/1990	
Assessing the Health Of Great Lakes Coastal Wetlands	Cornell University; Natural Resources Dept	To assist in the development of a long-term binational monitoring program for Great Lakes coastal wetlands through the analysis of data collected by six teams in 2002. [Wetland]		
Automonitoring Data	WDNR / Watershed Management	Initially used to document water quality problems and assist in developing the needed effluent limits for municipal and industrial discharges. Later used to document improvements in water quality and show that effluent limits established were sufficient to protect the water quality in these rivers. [Aquatic]	1/1/1972	
Beach Program	WDNR / Watershed Management	105 Wisconsin Great Lakes beaches are monitored. Under the Wisconsin Beach Program, The WDNR gives grants to communities along Lake Michigan and Lake Superior to monitor beach water for elevated bacteria levels. This information is made available to the public so beach visitors can make informed choices about how to use beach water resources. [Aquatic]		
BEACON - Beach Advisory and Closing On-line Notification	U.S. Environmental Protection Agency	BEACON is EPA's application to make state beach advisory and closing data available to the public. Data included in this database are contact information, monitoring and notification program information, general beach characteristics, advisory and closing data, and location data. [Aquatic]		

Table 7 continued

Item name	Organization	Purpose	Begin date	End date
Better Assessment Science Integrating Point and Nonpoint Sources (BASINS)	U.S. Environmental Protection Agency	BASINS (Better Assessment Science Integrating Point and Nonpoint Sources) is a multipurpose environmental analysis system for use by regional, state, and local agencies in performing watershed and water quality based studies. It integrates a geographic information system (GIS), national watershed and meteorological data, and state-of-the-art environmental assessment and modeling tools into one convenient package. Included in the database are water quality monitoring, bacteria monitoring, weather stations, USGS gauging stations, fish consumption advisories, national sediment inventory, shellfish classifications, GIS data, and point source data. [Aquatic]		
Biocriteria Study	WDNR / Integrated Science Services	Research. [Aquatic]	1/1/1986	12/31/1998
Brownfields Location Information System	Wisconsin Department of Commerce	BLIS is designed to help business and industry find reusable land while also helping landowners market their site. [Aquatic]		
BRRTS: Remediation & Redevelopment Tracking System	WDNR / Remediation & Redevelopment	We have opened this window to the public information in our system because we know it would benefit many of our external and internal partners, such as county health officials trying to gather information about water quality, or realtors, or scientists researching an environmental problem. At the same time it is an important step in the direction of governmental transparency, and thus is a service to the people and land of Wisconsin. [Aquatic]	8/1/2000	
Brule Research	WDNR / Integrated Science Services	To better understand the influences of in-stream woody debris on fish communities in coldwater streams so that predictions could be made about how management efforts to restore historical levels of woody debris to these streams would impact the fish community. [Aquatic]	7/1/1995	6/30/2004
Citizen Lake Monitoring Network	WDNR / Fisheries Management & Habitat	Monitoring includes opportunities for chemistry, dissolved oxygen monitoring, and aquatic plant surveys by citizen volunteers. The information gathered by the volunteers is used by lake biologists, fisheries staff, water regulation and zoning, UW-Extension office, lake associations, and other interested individuals. This network is designed to increase public information and involvement in lake management. [Aquatic]		
Citizen Stream Monitoring	Wisconsin's Water Action Volunteers	The goals of the program are: 1. that Wisconsin citizens will monitor stream and river health; 2. to support data sharing for educational purposes; 3. to provide a network for volunteer groups, individuals, and schools to interact; 4. to provide support for civic conservation and environmental groups; and 5. to help increase linkages between volunteer monitoring efforts and public resources protection programs. [Aquatic]		
Coastal Change Analysis Program (C-CAP)	NOAA	An immediate objective for C-CAP is to expeditiously complete a national baseline of land cover and change data, from which additional dates of imagery may be used to track coastal trends over time. [Wetland]		
Coastal Wetlands of WI's Great Lakes - Phase 1	WDNR / Endangered Resources	The purpose of the Phase 1 report is to compile existing information on coastal wetlands for Lakes Superior and Michigan in Wisconsin, select ecologically significant primary coastal wetland sites, and identify existing data or inventory gaps. [Wetland]	7/1/1999	3/31/2000
Coastal Wetlands website	WDNR / Endangered Resources	To identify and characterize the "ecologically-significant coastal wetland sites" for both of Wisconsin's Great Lakes. The ultimate outcome of the project is to increase the public awareness of these coastal wetlands and their importance by featuring these unique coastal wetland jewels in a series of public products. [Wetland]	1/1/1997	

Table 7 continued

Item name	Organization	Purpose	Begin date	End date
Confined Animal Feeding Operations (CAFOs)	WDNR / Drinking Water – Groundwater	This GIS database contains features of Confined Animal Feeding Operations (CAFOs) which are licensed by Wisconsin DNR. The database will contribute towards the evaluation of potential drinking and surface water contamination, modeling nutrient loading in watersheds, and other regional planning activities. [Aquatic]	8/21/2001	
Continuous Water Temperature Data	WDNR / Watershed Management	This data set was developed to aid in fisheries management decisions regarding trout stocking and determining the biological potential of streams. [Aquatic]	1/1/1997	
Dams Safety Database	WDNR / Watershed Management	This data set provides information about dams in Wisconsin, including abandoned or removed dams. [Aquatic]	1/1/1994	2/1/2001
DNR File Data - Northern Region	WDNR / Fisheries Management – Habitat	Inventory and Monitoring. [Aquatic]	1/1/1960	
Drinking Water System	WDNR / Drinking Water – Groundwater	To comply with the federal Safe Drinking Water Act. [Aquatic]	1/1/1974	
Ecological Classification and Inventory Systems	Department of Agriculture, Forest Service, North Central Forest Experiment Station, WDNR	The ecological classification and inventory (EC&I) system provides maps of ecological units at multiple scales, and ancillary interpretative information, useful in estimating ecosystem potentials and capabilities. Sections, subsections, and landtype associations efficiently predicted patterns in ecosystem components including surficial geology, lake densities, past and current vegetation, and occurrence of wildfires larger than one hundred acres. At each scale, these conditions and processes strongly influence ecosystem structure, composition, and function. [Wetland]	1992	Ongoing
Engineering Studies	WDNR / Watershed Management	To establish floodplain elevations for regulatory zoning purposes. [Aquatic]	1/1/1969	
Environmental Monitoring and Assessment Program (EMAP)	U.S. Environmental Protection Agency	Monitoring to estimate current status and trends in selected indicators of ecological health in Great Lakes (pollutants, exotic species, benthos, etc.). [Aquatic]		
Environmental Site Register	WDNR / Integrated Science Services	The purpose of the Environmental Site Register (ESR) is to facilitate the exchange of information. If you need to find information regarding a site, facility, company or person, the ESR or Fact system should be able to provide it and/or reference you to its source. [Aquatic]	1/1/1973	
EPA Waterbody System	WDNR / Watershed Management	This dataset is maintained to meet federal requirements for providing assessment data. However, DNR uses this information for management purposes as well. [Aquatic]	1/1/1990	
Eurasian Watermilfoil	WDNR / Watershed Management	The Eurasian watermilfoil database and its accompanying articles and reports are intended for future scholarly investigations on the distribution and spread of the species in Wisconsin lakes in particular, and throughout North America in general. It is also intended to be a public record to increase awareness of the rapid spread of this exotic nuisance weed. [Aquatic]	11/12/1990	
Fact System	WDNR / Cooperative Environmental Assistance	The Fact System does not contain any newly collected data. It integrates other DNR data for the purposes of public access and integrated problem solving. [Aquatic]	1/1/1987	
Fish Communities of the W. Lake MI Drainages	U.S. Geological Survey	To incorporate ecological data in an overall assessment of surface water quality. [Aquatic]	1/1/1993	12/31/1995

Table 7 continued

Item name	Organization	Purpose	Begin date	End date
Fish Habitat Water Permit database	WDNR / Fisheries Management – Habitat	To assist agency staff in managing permits. [Aquatic]	1/1/1915	
Floodplain Analysis Database (FAD)	WDNR / Watershed Management	Lists by county and community of the status and types of floodplain engineering analyses that have been performed. This list is maintained to establish floodplain elevations for regulatory zoning purposes. [Aquatic]		
Floodplain Maps	WDNR / Watershed Management	Published maps showing floodplain areas for regulatory zoning purposes. [Aquatic]	1/1/1974	
Fox River Database	WDNR / Watershed Management	This database was assembled as part of the Departments Remedial Investigation/Feasibility Study (RI/FS) and Proposed Remedial Action Plan. [Aquatic]	1/1/1976	
Fox River Fish Kill, 1988	WDNR / Watershed Management	Fish kill investigation. [Aquatic]	1/1/1988	12/31/1989
Gap Analysis Program	U.S. Geological Survey/ Biological Resources Division	The mission of the Gap Analysis Program (GAP) is to provide regional assessments of the conservation status of native vertebrate species and natural land cover types and to facilitate the application of this information to land management activities. Gap analysis is a methodology to identify gaps in the representation of biodiversity in areas managed exclusively or primarily for the long-term maintenance of populations of native species and natural ecosystems. [Wetland]	1995	Ongoing
GBMSD Ambient Water Quality Monitoring Program	Green Bay Metropolitan Sewerage District	To collect water and sediment quality data from the Lower Fox River and Green Bay, with the purpose of better understanding the natural resource and to better assess possible impacts of our discharge on that resource. [Aquatic]		
Geographic Analysis and Monitoring Program (GAM)	U.S. Geological Survey	Geographic Analysis and Monitoring Program (GAM) scientists conduct geographic assessments of land surface change to improve our understanding of the rates, causes, and consequences of natural and human-induced processes that shape and change the Nation's landscape over time. Studies are conducted within a geographic context and at a range of spatial and temporal scales so that investigations provide comprehensive information needed to understand the environmental, resource, and economic consequences of landscape change. [Wetland]		
Great American Secchi Dip-in	Kent State University	The Dip-In gives a comprehensive glimpse of transparency at volunteer-monitored sites across the United States, Canada and the rest of the world. These annual Dip-In snapshots can be put together to form a changing picture of transparency over time. [Aquatic]	7/1/1994	
Great Lakes Bathymetry	NOAA – National Geophysical Data Center (NGDC)	NOAA is engaged in a program to compile Great Lakes bathymetric data and make them readily available to the public, especially to the communities concerned with Great Lakes science, pollution, coastal erosion, response to climate changes, threats to lake ecosystems, and health of the fishing industry. This program is managed by NGDC and it relies on the cooperation of NOAA/Great Lakes Environmental Research Laboratory, NOAA/National Ocean Service, the Canadian Hydrographic Service, other agencies, and academic laboratories. [Aquatic]		

Table 7 continued

Item name	Organization	Purpose	Begin date	End date
Great Lakes CoastWatch Node	NOAA - Great Lakes Environmental Research Laboratory	CoastWatch is a nationwide National Oceanic and Atmospheric Administration (NOAA) program that delivers environmental data and products for near real-time monitoring of the Great Lakes to support environmental science, decision making, and research. CoastWatch data are used in a variety of ways including monitoring (algal blooms, plumes, ice cover, water intake temperatures at fish hatcheries, etc.), two and three dimensional modeling of Great Lakes physical parameters such as wave height and currents, damage assessment modeling, research, and educational activities. [Aquatic]		
Great Lakes Environmental Indicators Project (GLEI)	Natural Resources Research Institute	The goal of the GLEI project is to develop an integrated set of environmental indicators that can be used to assess the condition of the coastal margins of all five Great Lakes. Researchers are collecting data on habitat, amphibians, fish, invertebrates, vegetation, algae, and water quality in coastal wetlands and coastal margins of the U.S. Great Lakes. This is a multi-agency funded by the EPA's STAR Program. [Wetland]	2001	2004
Groundwater & Environmental Monitoring Sys. (GEMS)	WDNR / Waste Management	Regulatory compliance with Ch. NR 500s. [Aquatic]	10/9/1969	
Groundwater Contamination Susceptibility	WDNR / Drinking Water – Groundwater	These data were developed in the mid-1980s for use in an ARC/INFO-based analytical model to estimate the susceptibility of the state's groundwater to contamination from surface activities. [Aquatic]	1/1/1984	1/1/1986
Groundwater Data System (USGS)	U.S. Geological Survey	To collect and disseminate data used to develop and manage our water resources. These hydrologic data are used not only for determining the adequacy of water supplies, but also for implementing flood-warning systems; designing dams, bridges, and flood control projects; allocating irrigation water; locating sources of pollution, planning for energy development; and predicting the potential effects of radioactive waste disposal on water supplies. [Aquatic]		
Groundwater Retrieval Network (GRN)	WDNR / Drinking Water – Groundwater	To link groundwater data residing in various program related database systems to a retrieval system for consolidated reporting capabilities. [Aquatic]	1/1/1970	
Habitat Data of the W. Lake MI Drainages	U.S. Geological Survey	To incorporate physical habitat data in an overall assessment of surface-water quality. [Aquatic]	1/1/1993	12/31/1995
Integrated Plans	WDNR / Watershed Management	To collect information on the state of resources, both land and water, in an integrated fashion (moving past programmatic boundaries). Process is first step in work planning cycle and also fulfills federal requirements for water quality planning and fish and habitat strategic implementation plan. [Aquatic]	1/1/2000	1/1/2002
Invasive Species Monitoring	WDNR / Fisheries Management & Habitat	To track the spread of invasive species in Wisconsin waters and to document presence/absence of invasives in waters of the State. [Aquatic]		
Lab Data Entry System (LDES)	WDNR / Integrated Science Services	This is an updated and streamlined version of an older lab data entry system. It allows easier access of data by Staff, warehouses lab data (Jan. 1, 2001 to present; data from 1987 to 12/31/2000 will be migrated at a later date) stores comments about analyses, stores lab quality control data, and reduces data entry and key punch errors. [Aquatic]	1/1/2001	
Lake Clarity Monitoring	UW-Madison Environmental Remote Sensing Center	To integrate satellite data into Wisconsin's ongoing lake clarity monitoring program. [Aquatic]	1/1/2001	

Table 7 continued

Item name	Organization	Purpose	Begin date	End date
Lake Maps	WDNR / Fisheries Management & Habitat	Detailed scanned images of Wisconsin DNR Lake Maps. Lake Maps were created by the WDNR, Wisconsin Conservation Dept., and the CCC for Wisconsin. The purpose of this site is to make Wisconsin DNR Lake Maps readily available. [Aquatic]		
Lake Phosphorus Region polys	WDNR / Enterprise Data Management	This phosphorus map provides synthesis and integration of precise measurements of total phosphorus in lakes and more qualitative mapped information on geographic characteristics such as soils, geology, vegetation, and land use that together play a major role in explaining spatial patterns in lake quality. The map provides a basis for refining explanatory and predictive models by clarifying regionally important factors that help control lake trophic states. It also provides a framework for estimating attainable phosphorus concentrations. [Aquatic]		
Lake Protection Districts/ Associations	WDNR / Fisheries Management – Habitat	Inland lake protection and rehabilitation districts are established by local lake property owners and cities, villages, towns and counties for a variety of lake management purposes and must have county approval. Lake associations may operate under diverse titles, but the purpose is normally the same. In most, it is to maintain, protect, and improve the quality of a lake, its fisheries, and its watershed. [Aquatic]	1/1/1974	
Land & Water Resource Management Program	Racine County Land Conservation	To reduce soil erosion to "T" value on all cropland and prevent any direct discharge of agricultural manure from entering surface and groundwater. [Aquatic]		
Large River Hydro Research	WDNR / Integrated Science Services	Research and inventory to assess the impacts of hydroelectric dams and their indirect effects on fish communities. [Aquatic]	1/1/1995	12/31/1998
Long Term Lake Monitoring Program	WDNR / Integrated Science Services	Originally part of an EPA Program, LTM now consists of thirteen lakes in Wisconsin and eight in Upper Michigan. These lakes have been monitored three times per year since 1983. The study was designed to determine the chemical responses of lakes to changes in and deposit of acidic rain. The purpose of the monitoring is to determine the chemical responses of lakes to changes in and deposit of acidic rain. [Aquatic]		
Long Term Trend Monitoring	WDNR	The Wisconsin Long Term Trends monitoring networks consists of 42 surface water monitoring stations spread throughout the State. Sites are sampled either quarterly or monthly for a variety of parameters including nutrients, suspended solids, dissolved oxygen, and trace metals. [Aquatic]		
Lower Fox River Watershed Monitoring Program	University of Wisconsin Green Bay	The LFRWMP is a multi-year water monitoring program which will provide independent, high-quality data that can be used to make resource decisions to improve water quality and foster habitat restoration within the Fox River Basin. [Aquatic]		
Milwaukee River Basin Wetlands Assessment Project	WDNR / Fisheries Management and Habitat Protection	Using presence/absence data of 13 species of concern to develop Habitat Quality Indices for wetlands in the Milwaukee River basin. [Wetland]	2001	Ongoing
Milwaukee River Regional Data	UW-Milwaukee / Great Lakes Water Institute	This dataset was developed with two objectives. The first was to collate a number of disparate water quality data sets, facilitating the analysis of spatial and temporal trends by managers and researchers. The second was to make water quality data more accessible to researchers, managers, educators and the general public, by creating a relational database that is accessible via the internet. [Aquatic]	5/1/1939	6/1/2001

Table 7 continued

Item name	Organization	Purpose	Begin date	End date
Minocqua Priority Watershed Project	WDNR / Fisheries Management & Habitat	Inventory and Monitoring. [Aquatic]	1/1/1990	
National Sediment Inventory (NSI)	U.S. Environmental Protection Agency	This dataset describes the accumulation of chemical contaminants in river, lake, ocean, and estuary bottoms and includes a screening assessment of the potential for associated adverse effects on human and environmental health. [Aquatic]		
National Water Information System (gauging stations)	U.S. Geological Survey	The USGS investigates the occurrence, quantity, quality, distribution, and movement of surface and underground waters and disseminates the data to the public, State and local governments, public and private utilities, and other Federal agencies involved with managing our water resources. Online access to these data includes the following categories: real-time, site information, surface water, ground water, and water quality. [Aquatic]		
National Water Quality Assessment Program	U.S. Geological Survey	The U. S. Geological Survey implemented the National Water-Quality Assessment (NAWQA) Program to support national, regional, and local information needs and decisions related to surface and ground water-quality management and policy. By combining information on water chemistry, physical characteristics, stream habitat, and aquatic life, the NAWQA Program aims to provide science-based insights for current and emerging water issues and priorities. Sampling includes general water chemistry, pesticides, contaminants in bed sediments, and contaminants in fish and benthic invertebrates. [Aquatic]		
National Wetland Inventory Maps	U.S. Fish and Wildlife Agency	The National Wetland Inventory is an ongoing program to map and update all wetlands and surface waters in the USA using the Cowardin Classification System. [Wetland]		
Natural Heritage Inventory Program	WDNR / Endangered Resources	See Section 5.4 for a description of the Natural Heritage Inventory Program. The Wisconsin NHI database contains nearly 13,000 records for Working List species and communities associated with aquatic and wetland habitats [Aquatic and Wetland]	1985	Ongoing
Natural Resource Information System	USDA / Forest Service	The Forest Service Natural Resource Information System (NRIS) combines a standard corporate database and computer applications designed to provide employees, our partners, and the public with access to essential natural resource data needed to support the management decisions. NRIS focuses on the biological, physical, and human features that make up National Forest and Grassland landscapes. Where appropriate, NRIS also facilitates access to existing data maintained by other agencies and cooperators, especially when those data represent widely accepted standards. NRIS currently provides features in these components: Fauna, Field Sampled Vegetation, Terra, and Water –(focuses on data that describe aquatic habitats and stream morphology, watershed characteristics, water rights and uses, and aquatic organisms). Other components include Air, Tools, and Human Dimensions. [Wetland]	1999	Ongoing
NatureServe	NatureServe	NatureServe and its network of member programs are a leading source for reliable scientific information about species and ecosystems of the Western Hemisphere. This site serves as a portal for accessing several types of publicly available biodiversity data. [Wetland]	1994	Ongoing

Table 7 continued

Item name	Organization	Purpose	Begin date	End date
Northern Lake Mercury Studies	WDNR / Integrated Science Services	To understand the aquatic biogeochemistry of mercury, ancillary determinations of background water chemistry are being monitored in a variety of northern lakes. [Aquatic]	1/1/1981	
Northern Lakes Dissolved Oxygen Data	WDNR / Fisheries Management & Habitat	Inventory and Monitoring. [Aquatic]	5/18/1988	
Northern Rivers Initiative (database)	WDNR / Watershed Management	A strategy evolved to compile a prioritized list of stream corridors in northern Wisconsin that warrant additional protection, based on their high ecological significance, outstanding natural scenic beauty, and/or special recreational values. Our hope is to provide landowners and local governments with information on the value of their local stream resources so that they can make sound land use decisions when the need arises. The final evaluation database could also guide future implementation of river and stream protection as opportunities and resources become available. [Aquatic]	10/27/1997	12/30/2000
Northern Temperate Lakes Long Term Eco. Research	UW-Madison / Center for Limnology	Our vision is to gain a predictive understanding of the ecology of lakes at longer and broader scales than has been traditional in limnology. Our major goals are: a) to perceive long-term changes in these lake ecosystems; b) to understand within-lake interactions among physical, chemical, and biological processes that, along with external drivers, result in long-term dynamics; c) to understand lake ecology at the lake district scale; d) to integrate atmospheric, hydrologic, and biotic processes regionally; and e) to understand the reciprocal interactions between lakes and society. [Aquatic]	1/1/1970	
Nutrient Management Program	University Wisconsin Extension	To provide nutrient management properly on farm and home soils. [Aquatic]		
Outstanding Resource Waters	WDNR / Watershed Management	The Outstanding and Exceptional Resource Waters (OERWs) (NR102). OERWs are a Natural Resource Designation (i.e. codified law) whereas the Trout Stream designation is a Biological Use Classification. Some Class I trout streams are designated as ORWs (Outstanding Resource Waters). All other Class I trout streams (according to Wisconsin Trout Streams publication 6-3600 (80)) that are not listed in NR 102 as ORWs are classified as ERWs (Exceptional Resource Waters). A few additional Class II & Class III waters are listed in the code as either ORWs or ERWs. [Aquatic]	1/1/1993	
Permit Compliance System (PCS)	U.S. Environmental Protection Agency	The Permit Compliance System (PCS) database tracks permit compliance and enforcement status to meet the informational needs of the NPDES program under the Clean Water Act. It is a dynamic system that supports the NPDES program at the state, regional, and national levels. [Aquatic]		
Pre-Settlement Vegetation of Wisconsin	University of Wisconsin	Using the U.S. General Land Office Notes collected in the mid-1800s by land surveyors, Robert W. Finley was able to create a map displaying the vegetation cover of Wisconsin at that time. [Wetland]	1976	
Purple Loosestrife Occurrence Mapping	Great Lakes Indian Fish and Wildlife Commission	Statewide mapping of Purple Loosestrife occurrences. [Wetland]	2001	Ongoing
Purple Loosestrife Survey	Wisconsin Wetlands Association	The purple loosestrife survey involves surveying the state to find out where purple loosestrife is, recruiting and training citizens to help control the infestations, and providing educational materials for teachers who conduct purple loosestrife biological control with their students. [Wetland]	6/1/2002	Ongoing

Table 7 continued

Item name	Organization	Purpose	Begin date	End date
Recording Temperature & Dissolved Oxygen Data	WDNR / Watershed Management	Inventory and Monitoring. The primary purpose of temperature monitoring is to determine the suitability of streams to support coldwater fisheries. This monitoring is also conducted to identify thermal impacts from dams and impoundments. Dissolved oxygen monitoring is conducted to assess organic loading to streams from point and nonpoint sources. [Aquatic]	1/1/1990	
Reed Canary Grass Mapping	WDNR / Fisheries Management and Habitat Protection	A complete inventory of state wetlands conditions using satellite imagery to identify wetlands inundated by the invasive reed canary grass. In the future maps will be available in GIS. [Wetland]	2004	2006
Regional Environmental Corridor Inventory	Southeastern Wisconsin Regional Planning Commission (SEWRPC).	This is an inventory of existing environmental corridors and isolated natural resource areas for the seven-county Southeastern Wisconsin Region. The data set was collected at 5-year intervals and is current for the years 1990, 1995, and 2000. [Wetland]	1990	2000
Register of Waterbodies	WDNR / Integrated Science Services	ROW provides an inventory database of characteristics on over 27,000 identified waterbodies in Wisconsin. [Aquatic]	1/1/1985	
Registry of Closed Remediation Sites	WDNR / Remediation & Redevelopment	To make information on Closed Remediation Sites available to the public and DNR staff more quickly and easily and in a more complete and useful form than before. We hope that well-drillers, realtors, potential buyers of real estate, DNR staff, and many others will find it useful. [Aquatic]	11/1/2001	
Research Natural Areas Program	North Central Research Station, U.S. Department of Agriculture / Forest Service	The national network of Research Natural Areas (RNAs) helps protect biological diversity at the genetic, species, ecosystem, and landscape scales. RNAs are managed to maintain the natural features for which they were established, and to maintain natural processes. Because of the emphasis on natural conditions, they are excellent areas for studying ecosystems or their component parts and for monitoring succession and other long-term ecological changes. [Wetland]	1931	Ongoing
Riparian Grazing Stream Research	WDNR / Integrated Science Services	Research into assessing the impacts of farm animal grazing in riparian zones of small streams on fish and fish habitat in the stream. [Aquatic]	1/1/1996	12/31/1997
Rock River Citizens Monitoring	UW-Extension	The purpose of the RRC is to make the Rock River more useful, beautiful, and enjoyable by increasing cooperation among communities, organizations and individuals to preserve and promote our shared cultural, economic and environmental resources. [Aquatic]	6/1/1998	
RS 302 Data	WDNR / Integrated Science Services	Research and Inventory. [Aquatic]	1/1/1987	
Safe Drinking Water Information System (SDWIS)	U.S. Environmental Protection Agency	The Safe Drinking Water Information System (SDWIS) contains information about public water systems and their violations of EPA's drinking water regulations, as reported to EPA by the states. These regulations establish maximum contaminant levels, treatment techniques, and monitoring and reporting requirements to ensure that water systems provide safe water to their customers. [Aquatic]		
Sediment Core Data	WDNR / Integrated Science Services	There are about 72 lakes for which there are sediment core data. Each parameter is on a different spreadsheet. Some do not have zooplankton or algal pigments. These data are used to determine water quality history. The purpose of the data is to determine water quality history. [Aquatic]		

Table 7 continued

Item name	Organization	Purpose	Begin date	End date
Seston Characterization of Major Wisconsin Rivers	WDNR / Watershed Management	To determine improvements in major stream water quality following improved treatment of paper mill discharges. [Aquatic]	1/1/1976	12/31/1977
Sewer Service Area Plans	WDNR / Watershed Management	Sewer Service Area Planning is a process designed to anticipate a community's future needs for wastewater treatment. This planning helps protect communities from adverse water quality impacts through development of cost-effective and environmentally sound 20-year sewerage system growth plans. The plans are designed to provide structure to a communities wastewater collection system to accommodate current and future growth while at the same time consolidating wetland, shoreland and floodplain protection programs within a community-based plan for sewered development. [Aquatic]		
Soil Survey Geographic (SSURGO) Database	USDA / Natural Resources Conservation Service	SSURGO is the most detailed level of soil mapping done by the Natural Resources Conservation Service (NRCS). SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships, and county natural resource planning and management. The user should be know ledgeable of soils data and their characteristics. [Wetland]		
State Natural Areas	WDNR / Endangered Resources	State Natural Areas (SNAs) protect 414 outstanding examples of Wisconsin's native landscape - often the last refuge for rare plants and animals. These SNAs are valuable for research and educational use, the preservation of genetic and biological diversity, and for providing benchmarks for determining the impact of use on managed lands. [Wetland]	1951	Ongoing
Statewide Fish/Sediment Contaminants	WDNR / Fisheries Management – Habitat	These data were collected to investigate contaminant sources and contaminated sites; analyze pollution trends, track their extents, and assess damage; monitor pre/post remediation efforts and measure their success; issue fish consumption advisories; and conduct baseline surveys, establish reference sites, and predict wildlife impacts. [Aquatic]	1/1/1970	
STORET	EPA / Office of Water	STORET contains information on why the data were gathered; sampling and analytical methods used; the laboratory used to analyze the samples; the quality control checks used when sampling, handling the samples, and analyzing the data; and the personnel responsible for the data. [Aquatic]	1/1/1965	
Stormwater Treatment System Data	WDNR / Watershed Management	Monitor treatment efficiency of a sand/peat stormwater filtration system prior to discharge into Minocqua Lake, Oneida County Wisconsin. [Aquatic]	6/28/1995	9/26/1996
Stream Habitat Evaluations	WDNR / Integrated Science Services	Research evaluating the impacts of urban land use on stream systems. [Aquatic]	1/1/1990	
Stream Monitoring in Washington County	Washington County - Land & Water Conservation Division	1) Determine existing water quality conditions and assess watershed protection needs. 2) Promote stewardship by raising public awareness about water quality issues. 3) Evaluate effectiveness of Best Management Practices (before/after). 4) Evaluate effectiveness of long-term, comprehensive watershed rehabilitation efforts. 5) Reveal and characterize trends in water quality. [Aquatic]		
Submerged Macrophyte Depth Limits	WDNR / Integrated Science Services	Assess relationships between water quality and light availability, and their relationship to abundance and depth limitations of submersed macrophytes. [Aquatic]	4/20/1985	8/31/1989

Table 7 continued

Item name	Organization	Purpose	Begin date	End date
Superfund Sites	EPA / Office of Emergency and Remedial Response	Congress established the Superfund Program in 1980 to locate, investigate, and clean up the worst hazardous waste sites nationwide. [Aquatic]	12/11/1980	
Surface Water Data System (USGS)	U.S. Geological Survey	To collect and disseminate data used to develop and manage our water resources. These hydrologic data are used not only for determining the adequacy of water supplies, but also for implementing flood-warning systems; designing dams, bridges, and flood control projects; allocating irrigation water; locating sources of pollution, planning for energy development; and predicting the potential effects of radioactive waste disposal on water supplies. [Aquatic]		
Surface Water Monitoring	Menominee Indian Tribe of Wisconsin	Collect water quality data on the Menominee Indian Reservation. [Aquatic]		
SWAMP	WDNR / Watershed Management	To draft specific WPDES permits, store permit related documents, generate monitoring forms, capture and track data submitted by permittees, automatically identify violations and compliance deficiencies, track contacts with permittees, and to improve the productivity of the staff. [Aquatic]	1/1/1999	
Testing the Waters	Riveredge Nature Center	The Testing the Waters Project seeks to involve students from schools throughout the Milwaukee River watershed in the monitoring of water quality on the river and the identification of factors affecting water quality. [Aquatic]	4/27/1998	
The Pre- European Settlement Vegetation Database of Wisconsin	University of Wisconsin-- Forest Ecology and Management	The Pre- European Settlement Vegetation Database of Wisconsin is a tabular database containing vegetative information extracted from the US General Land Office's Public Lands Survey original surveyors' notes for Wisconsin. The purpose of this database is to provide information to researchers and land managers about the nature of Wisconsin's landscapes prior to widespread European-American settlement. See: Schulte, L.A., and D.J. Mladenoff. 2001. The original US Public Land Survey records: their use and limitations in reconstructing presettlement vegetation. J. Forestry 99(10): 5-10. [Wetland]	Mid-1800s	
Toxics Release Inventory	WDNR / Integrated Science Services	TRI is a public "report card" for the industrial community, creating a powerful motivation for waste reduction. This annual accounting of the nation's management of industrial toxic chemical wastes is a valuable source of information for concerned individuals and communities. Citizens can use TRI to evaluate local facilities through comparisons, determine how toxic chemicals are used, and, with other information, evaluate potential health risks for their community. Organizations can use TRI information as a starting point for constructive dialogue with manufacturing businesses in the area. [Aquatic]	1/1/1987	
Trout Streams	WDNR / Fisheries Management – Habitat	To provide a comprehensive list of trout streams in Wisconsin. [Aquatic]	1/1/1957	9/30/2001
Wasteload Allocation Survey Data	WDNR / Watershed Management	Used to determine effluent limits for industrial and municipal dischargers. [Aquatic]	1/1/1975	
Water Quality in Lake Butte des Morts, 1991-1995	WDNR / Integrated Science Services	Assessing water quality impacts of a large breakwater project. [Aquatic]	4/20/1991	8/31/1995
Water Quality Monitoring	City of Milwaukee Health Department	Surveillance water quality baseline monitoring surface water quality monitoring. [Aquatic]		

Table 7 continued

Item name	Organization	Purpose	Begin date	End date
Water Quality of Large Shallow Lakes	WDNR / Integrated Science Services	Assess water quality as a limiting factor on abundance of submerged aquatic macrophytes, and sources of turbidity contributing to restricted light availability as potential degrading factors of diving duck migrational habitat quality. [Aquatic]	4/20/1985	8/31/1994
Water Quality System (USGS)	U.S. Geological Survey	To collect and disseminate data used to develop and manage our water resources. These hydrologic data are used not only for determining the adequacy of water supplies, but also for implementing flood-warning systems; designing dams, bridges, and flood control projects; allocating irrigation water; locating sources of pollution, planning for energy development; and predicting the potential effects of radioactive waste disposal on water supplies. [Aquatic]		9/30/1999
Water Resources Data Directory System	WDNR / Watershed Management	This data set was developed to allow thorough and quick access to water resources data stored in numerous file cabinets managed by several staff. [Aquatic]	1/1/1960	12/31/1997
Water Table Depth	WDNR / Enterprise Data Management	These data were developed in the mid-1980s for use in an ARC/INFO-based analytical model to estimate the susceptibility of the state's groundwater to contamination from surface activities. [Aquatic]	1/1/1984	1/1/1985
Water Temperature - Soules Creek	WDNR / Integrated Science Services	Test the hypothesis that native brook trout communities and associated sport fisheries can be re-established in portions of their historical range where they are all but gone by removing exotic (introduced) salmonids using electrofishing gear. [Aquatic]	7/1/1997	6/30/2002
Water Temperature - Ten Mile Creek	WDNR / Integrated Science Services	Assess the effects upon fish habitat and natural fish and macroinvertebrate assemblages in trout streams from impoundment, agricultural water use and return, and groundwater pumping and/or stream channel diversion. [Aquatic]	7/1/1995	6/30/1999
Water Temperature - Upper Pine River	WDNR / Integrated Science Services	Test the hypothesis that native brook trout communities and associated sport fisheries can be re-established in portions of their historical range where they are all but gone by removing exotic (introduced) salmonids using electrofishing gear. [Aquatic]	7/1/1997	6/30/2002
WATERBase	University of Wisconsin – Milwaukee	Monitoring sites extend from the Milwaukee Harbor to a pelagic station 16 km offshore, and include a perch spawning reef and an urban water intake area. The suite of measurements includes temperature, water clarity, water chemistry, phytoplankton & zooplankton abundance, and bacterial and plankton productivity. [Aquatic]		
WATERBase - Water Quality Monitoring Data	Milwaukee Metropolitan Sewerage District	The Milwaukee Metropolitan Sewerage District (MMSD) maintains an extensive water quality monitoring program to aid in pollution abatement, facilities planning, and flood control. As a result, a large data set of traditional water quality measurements beginning in 1975 became available. Other physical, biological, and chemical measurements as well as more sampling sites have been added each year. [Aquatic]		
Watersheds	WDNR / Enterprise Data Management	The watershed boundary delineations in this data set are used primarily to prepare reference basemaps for the DNR Nonpoint Source Water Pollution Abatement Program, also generally known as the Priority Watershed Program. Priority watershed projects are designed to address water quality problems caused by nonpoint sources of pollution in selected watersheds. The data are intended for use with ArcView, ARC/INFO, or other GIS software, which support shapefile format data. [Aquatic]	1/1/1992	1/1/1999

Table 7 continued

Item name	Organization	Purpose	Begin date	End date
Wetland Mgmt Dist. Conservation Easements (USFWS)	U.S. Fish and Wildlife Service	The intended application of the data is to serve as a spatial reference of conservation easements for use by Wetland Management Districts in Region 3. It is specifically not intended to be used as a land survey or representation of land for conveyance or tax purposes. [Aquatic]		
Wetlands	WDNR / Fisheries Management – Habitat	These data are intended to support a wide range of mapping, resource inventory, environmental planning, and other applications needing an accurate assessment of where wetlands are located in Wisconsin. [Aquatic]	1/1/1990	
Wild Rice Harvest Data	Great Lakes Indian Fish and Wildlife Commission	To provide information about wild rice beds and use in Wisconsin, and to document trends and abundance over time. To record how successful wild rice plant restoration is and to document wild rice harvesting information on Wisconsin lakes, streams and flowages. [Aquatic, Wetland]	1/1/1985	
Wildlife Use Associated with Erosion Control	WDNR / Integrated Science Services	Assess effects of shoreline protection structures on wildlife use and associated habitat. [Aquatic]	4/20/1995	7/31/1995
Wisconsin Floristic Quality Assessment for Wetlands	WDNR / Fisheries Management and Habitat Protection	The Wisconsin Floristic Quality Assessment (WFQA) method was developed to provide an intensive measure of wetland biological integrity at the site level based on the condition of the plant community. For the assessment and monitoring of the biological integrity, or condition, of wetlands in Wisconsin the WEQA is one tool in the toolbox. The uses for condition assessment are for management and restoration of wetlands, planning for the preservation of wetlands, development and refinement of wetland water quality standards, and periodic reporting on wetland condition. A computer program is being developed to calculate floristic quality parameters and is being tested. Development of a database of FQA site values is also planned. [Wetland]	2003	Ongoing
Wisconsin Lakes – Sensitive Area Designations	WDNR / Fisheries Management – Habitat	As stated in Ch. NR 107.05, sensitive areas are areas of aquatic vegetation identified by the Department as offering critical or unique fish and wildlife habitat, including seasonal or life stage requirements, or offering water quality or erosion control benefits to the body of water. The purpose of this dataset is to identify areas with unique and/or critical ecological habitat; and/or historical, geological, and/or archaeological significance. [Aquatic]		
Wisconsin Land Cover (WISCLAND)	WDNR	The Wisconsin Land Cover data set is a raster representation of vegetation/land cover for the state. Source data were acquired from the Landsat Satellite Thematic Mapper (TM) sensor, primarily in the spring and fall of 1992. The map depicts the state of Wisconsin via 13 types of land cover, from open water and wetland to deciduous forest and farm fields. [Wetland]	1992	
Wisconsin Trout Streams	WDNR / Fisheries Management – Habitat	These data are used for display, mapping and analytic purposes where a relatively detailed representation of hydrography, as well as the location and distribution of trout quality streams is needed. [Aquatic]	1/1/1960	
Wisconsin Wetland Inventory	WDNR / Fisheries Management and Habitat Protection	The inventory was established to map the state's wetlands for their protection. County maps are derived from aerial photographs. Not all county maps are based on current conditions. Not all the county maps are presently available in GIS. [Wetland]	1978	Ongoing

Table 8. Terrestrial plant surveys, inventories, or monitoring programs in Wisconsin (adapted from Wisconsin DNR 2004c and Great Lakes Commission 2004).

Item name	Organization	Purpose	Begin date	End date
Aerial Surveys of Defoliation	WDNR/ Forest Health Protection Group	Yearly aerial surveys of forest defoliation to determine the presence and severity of a number of threats to forest health for example; Tent Caterpillars, Oak Wilt, Spruce Budworm, Jackpine Budworm, Gypsy Moth, etc. [Northern Forests, Southern Forests]	1950's	Ongoing
Atlas of the Wisconsin Prairie and Savanna Flora	Wisconsin State Herbarium and WDNR / Endangered Resources	This Atlas of the Wisconsin Prairie and Savanna Flora shows the exact distributions of most of the native vascular plants of Wisconsin grassland and savanna communities. The Atlas also discusses the physical geography and climate of Wisconsin; the composition of its prairie, barrens, and savanna communities; and the history of its flora. One of the practical uses of this work is to help guide ecologists and conservationists in the planning of prairie restorations. [Oak Savannas, Barrens, Grasslands]	2000	2000
Champion Trees of Wisconsin	WDNR / Forestry	"Champion" trees are defined as the largest tree of a particular species or taxa as determined by measurements of the trunk circumference, tree height and tree crown spread. Over 2100 records are kept on 271 tree species, subspecies and cultivars in Wisconsin. The database contains information on a tree's size, location, ownership, nominator and condition. The DNR keeps big tree records to encourage the appreciation of Wisconsin's forests and trees. [Northern Forests, Southern Forests]	1941	Ongoing
Ecological Classification and Inventory Systems	USDA Forest Service, North Central Forest Experiment Station, WDNR	The ecological classification and inventory (EC&I) system provides maps of ecological units at multiple scales, and ancillary interpretative information, useful in estimating ecosystem potentials and capabilities. Sections, subsections, and landtype associations efficiently predicted patterns in ecosystem components including surficial geology, lake densities, past and current vegetation, and occurrence of wildfires larger than one hundred acres. At each scale, these conditions and processes strongly influence ecosystem structure, composition, and function. [Northern Forests, Southern Forests, Oak Savannas, Barrens, Grasslands]	1992	Ongoing
Emerald Ash Borer Monitoring	WDNR/ Forest Health Protection Group	Monitoring for the presence of the invasive non-native Emerald Ash Borer in State Parks and Forests. [Northern Forests, Southern Forests, Oak Savannas, Barrens]	2004	Ongoing
Forest Health Monitoring	USDA Forest Service	Forest Health Monitoring (FHM) is a national program designed to determine the status, changes, and trends in indicators of forest condition on an annual basis. The FHM program uses data from ground plots and surveys, aerial surveys, and other biotic and abiotic data sources and develops analytical approaches to address forest health issues that affect the sustainability of forest ecosystems. FHM covers all forested lands through a partnership involving USDA Forest Service, State Foresters, and other state and federal agencies and academic groups. [Northern Forests, Southern Forests, Oak Savannas, Barrens]		Ongoing

Table 8 *continued*

Item name	Organization	Purpose	Begin date	End date
Forestry Compartment Reconnaissance Database	WDNR / Forestry	Per Chapter 100 of the Public Forest Lands Handbook (HB24605, 1994) "Reconnaissance (recon) of land is a tool utilized in the assessment of geographical, structural, and compositional attributes of existing resources. The database is used to analyze existing resources, evaluate management alternatives, and assist in the development and implementation of management plans. This type of assessment is necessary to implement ecosystem management." The Recon Database is used to facilitate management of state and county forests as well as other state management areas. [Northern Forests, Southern Forests]		Ongoing
Gap Analysis Program	U.S. Geological Survey/ Biological Resources Division	The mission of the Gap Analysis Program (GAP) is to provide regional assessments of the conservation status of native vertebrate species and natural land cover types and to facilitate the application of this information to land management activities. Gap analysis is a methodology to identify gaps in the representation of biodiversity in areas managed exclusively or primarily for the long-term maintenance of populations of native species and natural ecosystems. [Northern Forests, Southern Forests, Oak Savannas, Barrens, Grasslands]	1995	Ongoing
Geographic Analysis and Monitoring Program (GAM)	U.S. Geological Survey	Geographic Analysis and Monitoring Program (GAM) scientists conduct geographic assessments of land surface change to improve our understanding of the rates, causes, and consequences of natural and human-induced processes that shape and change the Nation's landscape over time. Studies are conducted within a geographic context and at a range of spatial and temporal scales so that investigations provide comprehensive information needed to understand the environmental, resource, and economic consequences of landscape change. [Northern Forests, Southern Forests, Oak Savannas, Barrens, Grasslands]		
Great Lakes Basin Vegetation Change Analysis	U.S. Environmental Protection Agency	In general, changes in the growth of vegetation in the Great Lakes Region are constrained by biophysical conditions (e.g. geology, temperature, and humidity). Research suggests that such changes in vegetation cover may be a consequence of global-scale climatic change. [Northern Forests, Southern Forests, Barrens, Oak Savannas, Barrens, Grasslands]		
Great Lakes Ecological Assessment	USDA Forest Service and Natural Resource Cons. Service, USGS/Biological Resource Div., USEPA, MI State U, MI Tech. U, U of MI, U of WI-Madison and U of MN-Duluth.	The Great Lakes Ecological Assessment is an interagency effort to collect and consolidate new and existing environmental, biological, and socioeconomic information in the Northern Lake States. The project is envisioned as one part of an overall program of adaptive planning, management, monitoring, and research supporting ecosystem management. [Northern Forests, Southern Forests, Barrens]		Ongoing
Gypsy Moth Monitoring	WDATCAP with WDNR/ Forest Health Protection Group	Pheromone trapping of male gypsy moths as part of the Stop the Spread campaign. Trapping is very intense in the western part of the state to identify where pioneering colonies are moving. In the eastern part of the state trapping is less intensive to monitor population trends. [Northern Forests, Southern Forests, Oak Savannas, Barrens]	1980's	Ongoing

Table 8 *continued*

Item name	Organization	Purpose	Begin date	End date
Landscape Change Integrated Research and Development Program	North Central Research Station, U.S. Department of Agriculture / Forest Service and other partners	This research has helped to identify the critical patterns and trends of changes in the North Central region over recent decades. Detailed information on housing density and land cover and county-level data on forest characteristics, plants and animals, and human demographics have been organized in a web-based atlas available to researchers, planners, and decision makers. [Northern Forests, Southern Forests, Oak Savannas, Barrens, Grasslands]	1999	2003
Managing Habitat for Grassland Birds: A Guide for Wisconsin	WDNR/ Integrated Science Services	A guidebook written primarily for natural resources managers to help them plan and implement habitat management for grassland birds in Wisconsin. Identifies priority landscapes and sites in WI for grassland bird management. [Grasslands]	1985	1997
Moquah Barrens Inventory and Monitoring	Northland College, Ashland, WI	Bi-yearly survey of small mammals, birds, and vegetation at permanent plots as part of an ecological sampling class. Analyses are conducted to determine effects of vegetation management. [Barrens]	1999	Ongoing
National Forest Inventory and Analysis Data Base Systems	USDA / Forest Service; North Central Research Station	This program produces tables and maps from the USDA Forest Service's Forest Inventory and Analysis Database (FIADB). The user inputs the following information: 1) geographic area of interest (state/county retrieval or radius retrieval) 2) attribute of interest (timberland area, number of trees, growing-stock volume, etc.) 3) optional filters (for restricting the query to a specific ownership, species, etc.) 4) classification variables to be used for columns and rows and the web application generates the resulting table. [Northern Forests, Southern Forests, Barrens]	1936	Ongoing
National Land Cover Characterization Project	U.S. Geological Survey	The Land Cover Characterization Program (LCCP) was started in 1995 to address National and International requirements for land cover data that were becoming increasingly sophisticated and diverse. Develops state-of-the-art multi-scale land cover characteristics databases used by scientists, resource managers, planners, and educators. [Northern Forests, Southern Forests, Oak Savannas, Barrens, Grasslands]		
Natural Heritage Inventory Program	WDNR / Endangered Resources	See Section 5.4 for a description of the Natural Heritage Inventory Program. [Northern Forests, Southern Forests, Oak Savannas, Barrens, Grasslands]	1985	Ongoing

Table 8 continued

Item name	Organization	Purpose	Begin date	End date
Natural Resource Information System	USDA / Forest Service	<p>The Forest Service Natural Resource Information System (NRIS) combines a standard corporate database and computer applications designed to provide employees, our partners, and the public with access to essential natural resource data needed to support the management decisions. NRIS focuses on the biological, physical, and human features that make up National Forest and Grassland landscapes. NRIS saves long-term costs by replacing hundreds of local and unique data systems used in the past for storing and analyzing resource data. Where appropriate, NRIS also facilitates access to existing data maintained by other agencies and cooperators, especially when those data represent widely accepted standards.</p> <p>NRIS currently provides features in these components: Fauna- (This component documents the occurrence of terrestrial wildlife on National Forests and is linked to other federal, state, and organization databases on wildlife species); Field Sampled Vegetation (FSVeg) –(covers point and plot vegetation data from field surveys such as stand exams, inventories and regeneration surveys. Data on trees, surface cover, understory vegetation, and down woody material are managed in this component); Terra – (contains core terrestrial ecology data on soils, geology, geomorphology, ecological classification, invasive plants, and potential natural vegetation); and Water – (focuses on data that describes aquatic habitats and stream morphology, watershed characteristics, water rights and uses, and aquatic organisms). Other components include Air, Tools, and Human Dimensions. [Northern Forests, Barrens]</p>	1999	Ongoing
NatureServe	NatureServe	<p>NatureServe and its network of member programs are a leading source for reliable scientific information about species and ecosystems of the Western Hemisphere. This site serves as a portal for accessing several types of publicly available biodiversity data. [Northern Forests, Southern Forests, Oak Savannas, Barrens, Grasslands]</p>	1994	Ongoing
The Pre-European Settlement Vegetation Database of Wisconsin	University of Wisconsin--Forest Ecology and Management	<p>The Pre-European Settlement Vegetation Database of Wisconsin is a tabular database containing vegetative information extracted from the US General Land Office's Public Lands Survey original surveyors' notes for Wisconsin. The purpose of this database is to provide information to researchers and land managers about the nature of Wisconsin's landscapes prior to widespread European-American settlement. See: Schulte, L.A. and D.J. Mladenoff. 2001. <i>The original US Public Land Survey records: their use and limitations in reconstructing presettlement vegetation</i>. J. Forestry 99(10): 5-10. [Northern Forests, Southern Forests, Oak Savannas, Barrens, Grasslands]</p>	Mid-1800s	
Pre-Settlement Vegetation of Wisconsin	University of Wisconsin	<p>Using the U.S. General Land Office Notes collected in the mid-1800s by land surveyors, Robert W. Finley was able to create a map displaying the vegetation cover of Wisconsin at that time. [Northern Forests, Southern Forests, Savannas, Barrens, Grasslands]</p>	1976	
Regional Environmental Corridor Inventory	Southeastern Wisconsin Regional Planning Commission (SEWRPC).	<p>This is an inventory of existing environmental corridors and isolated natural resource areas for the seven-county Southeastern Wisconsin Region. The data set was collected at 5-year intervals and is current for the years 1990, 1995, and 2000. [Southern Forests, Oak Savannas, Grasslands]</p>	1990	2000

Table 8 continued

Item name	Organization	Purpose	Begin date	End date
Research Natural Areas Program	North Central Research Station, U.S. Department of Agriculture / Forest Service	The national network of Research Natural Areas (RNAs) helps protect biological diversity at the genetic, species, ecosystem, and landscape scales. RNAs are managed to maintain the natural features for which they were established, and to maintain natural processes. Because of the emphasis on natural conditions, they are excellent areas for studying ecosystems or their component parts and for monitoring succession and other long-term ecological changes. [Northern Forests, Barrens]	1931	Ongoing
State Natural Areas	WDNR / Endangered Resources	State Natural Areas (SNAs) protect 414 outstanding examples of Wisconsin's native landscape - often the last refuge for rare plants and animals. These SNAs are valuable for research and educational use, the preservation of genetic and biological diversity, and for providing benchmarks for determining the impact of use on managed lands. [Northern Forests, Southern Forests, Oak Savannas, Barrens, Grasslands]	1951	Ongoing
The <i>Vegetation of Wisconsin</i> Dataset Re-sampling and Analysis.	University of Wisconsin-Madison, Waller Lab Group	To provide data for his classic 1959 book "The Vegetation of Wisconsin," John Curtis and his students visited and sampled vegetation at over 1200 sites throughout Wisconsin. The Waller Lab Group is in the process of re-sampling many of the upland forest sites to assess what types of ecological change have occurred over the last five decades. Analyses are focusing on exotic species invasion and changes in species richness, species composition, floristic quality, and similarity among sites. [Northern Forests, Southern Forests]	1959	Ongoing
Wisconsin Forests at the Millennium: An Assessment, November 2000	WDNR / Forestry	The Assessment provides an overview of the state of Wisconsin's forest resources from ecological, economic, and social perspectives. [Northern Forests, Southern Forests, Oak Savannas, Barrens]	2000	
Wisconsin Invasive Plants Reporting and Prevention Project	Wisconsin State Herbarium and WDNR / Endangered Resources	The goal of the project is to get early identification and monitoring of new invasive plant populations. The first step is to get landowners and managers, and private individuals to identify and report new populations of target invasive weed species. Then to have them eliminate or contain those populations before they spread, and report their management activities. The landscape level goal for project is to coordinate the long-term monitoring of occurrence sites and to share the data statewide. [Northern Forests, Southern Forests, Oak Savannas, Barrens, Grasslands]	2004	Ongoing
Wisconsin Land Cover (WISCLAND)	WDNR	The Wisconsin Land Cover data set is a raster representation of vegetation/land cover for the state. Source data were acquired from the Landsat Satellite Thematic Mapper (TM) sensor, primarily in the spring and fall of 1992. The map depicts the state of Wisconsin via 13 types of land cover, from open water and wetland to deciduous forest and farm fields. [Northern Forests, Southern Forests, Oak Savannas, Barrens, Grasslands]	1992	

Table 9. Surveys, inventories, or monitoring programs in Wisconsin that include citizen-collected data (sources include Wisconsin DNR 2004c – for more information on the project scope and geographic extent, see <http://www.dnr.state.wi.us/atri>).

Name	Reporting Cycle	Organization(s)	Purpose	Begin Date	End Date
Atkinson Mine Arthur & Co. Mine	Biennial	Public Volunteers	Estimate hibernating bat population size. Data are recorded for little brown bat, eastern pipistrelle, big brown bat, northern long-eared bat.	1994	Ongoing
Bobcat Hunter/Trapper Survey	August, annually	DNR	To collect data on hunter effort and harvest rates for bobcat by county and management unit. Data also collected on impression of relative population size for fox, coyote, fisher , and gray wolf . Observations of Canada lynx, gray wolf, American marten, and cougar solicited.	1980	Ongoing
Bowhunter Wildlife Survey	August, annually	DNR, WTA, WBA	Monitor wildlife population trends seen by bowhunters, including black bear, bobcat, house cat, gray wolf , coyote, red fox, gray fox, fisher , river otter, American badger , striped skunk, American marten, North American porcupine , common raccoon, and white-tailed deer.	1997	Ongoing
Breeding Bird Atlas	Continuous	WSO	To: 1) Provide a permanent record of breeding bird species, 2) Provide baseline data for monitoring future changes, 3) Assess habitat needs and document species diversity, 4) Document abundance and distribution of rare and endangered species, 5) Provide comparisons with historical studies, 6) Complement existing avian monitoring programs, 7) Assist in preservation of neotropical migratory birds, 8) Help land use planning, 9) Assist in environmental impact assessments.	1995	2005
Christmas Bird Count	Annually, Winter	National Audubon Society	To monitor the status and distribution of bird populations across the Western Hemisphere.	1900	Ongoing
CWD and Wisconsin Ungulates	As needed	DNR & cooperators	To determine the distribution and prevalence of Chronic Wasting Disease in captive & wild ungulate herds in WI.	2002	Ongoing
Fur Trapper Survey	August, annually	DNR	To document trapping effort, location, species sought, and harvest rates. Mammals include: American beaver, bobcat, coyote, red fox, gray fox , striped skunk, weasels (species not delineated), fisher , river otter, mink, muskrat , Virginia opossum, and common raccoon.		Ongoing
Gray Wolf Population	August, annually	DNR, Public Volunteers	To determine the distribution and number of gray wolves and packs in WI through radio-tracking, howling surveys, winter track counts, and Rare Mammal Observation Cards.	1980	Ongoing
Incidental Wolf Obs.	Annual	DNR	Record of gray wolf observations from DNR and the public.	2004	Ongoing
NatureMapping	Continuous	BCR, DNR	To map wildlife distributions in Wisconsin through public training, observations, and online data entry and viewing. Includes all SGCN. BCR=Beaver Creek Reserve.	2003	Ongoing
Ruffed Grouse Drumming Survey	Annually	DNR, USFS & Volunteers	To determine the distribution and population status of Ruffed Grouse in Wisconsin.	1964	Ongoing
Wisconsin Frog and Toad Survey	Annual	WDNR	This survey's primary focus is to provide ongoing population monitoring of frog and toad species. It also provides information on their distribution and relative abundance. Includes all frog SGCN.	1981	Ongoing
Summer Wildlife Inquiry	April, annually	DNR, landowners	Determine the trends in summer observations of nine species by Wisconsin landowners - mammals include white-tail deer, fox (species not delineated), coyote, and striped skunk.	1988	Ongoing
Winter Track Count	August, annually	DNR, Public Volunteers	To monitor distribution and trends in mammal track counts using roadside surveys in northern and central Wisconsin. Species include - bobcat, coyote, fox, fisher , river otter, American marten , and snowshoe hare .	1977	Ongoing

Table 9 *continued*

Name	Reporting Cycle	Organization(s)	Purpose	Begin Date	End Date
Wisconsin Statewide Small Mammal Inventory	Annually, Spring	DNR, UW, et al..	Document the current distribution, relative abundance, and habitat associations of 40 small mammal species. Emphasis on shrews, moles, lemming, voles, mice, and ground-squirrels. Includes most SGCN except bats.	2001	Ongoing